MODIS Gridded Vegetation Indices: The Maximum Value Composited NDVI (#2749a) and the BRDF-Adjusted MVI (#4334a)

Product Description

The MODIS gridded VIs will provide consistent spatial and temporal comparisons of global vegetation conditions which will be used to monitor the Earth's photosynthetic vegetation activity for phenologic, change detection, and biophysical interpretations. The gridded VIs are 10- and 30-day temporal and spatial, re-sampled products designed to provide cloud-free vegetation maps at nominal resolutions from 250 m to 0.5°. The NDVI composites consist of cloud-free and atmospherically corrected pixels at 250 m resolution and 10 day intervals and are based on the maximum value of NDVI. The MVI composites are calculated from cloud-free and atmospherically corrected gridded surface reflectances standardized to nadir views with the help of BRDF models. The VIs are also composited to monthly (30-day) intervals. The 10-day NDVI composites contain 16 bytes for each grid cell, which include maximum NDVI value, red and NIR surface reflectances, solar and sensor zenith angles, relative azimuth, and quality control parameters. The 10-day MVI composites contain 12 bytes per pixel and include nadir-adjusted MVI value, nadir-adjusted red, NIR, and blue surface reflectances, median solar zenith and azimuth angles, and quality control parameters.

Research & Applications

VIs are used for global monitoring of vegetation conditions. The VIs are used as input in the land cover and land cover change products. They also play an important role in the derivation of the FPAR, LAI, and thermal products. The at-launch version will be fully operational.

Data Set Evolution & Applications

Although a global validation scheme has been implemented for the VIs, a thorough evaluation and calibration of these indices will be made at launch.

Suggested Reading

Huete, A., *et al.*, 1994a.

Huete, A., *et al.*, 1994b.

Los, S.O., *et al.*, 1994.

MOD 34
PRODUCT SUMMARY

Coverage:
global land surface (Level 3)

Spatial/Temporal Characteristics:
(Level 3) 10 day and monthly at 250 m

Key Science Applications:
global vegetation monitoring, global biogeochemical and hydrologic modeling, global and regional climate modeling, land cover characterization

Key Geophysical Parameters:
vegetation index

Processing Level:
3

Product Type:
standard, at-launch

Science Team Contact:
A. Huete, C. Justice

MODIS Gridded Vegetation Indices: The Maximum Value Composited NDVI (#2749a) and the BRDF-Adjusted MVI (#4334a)

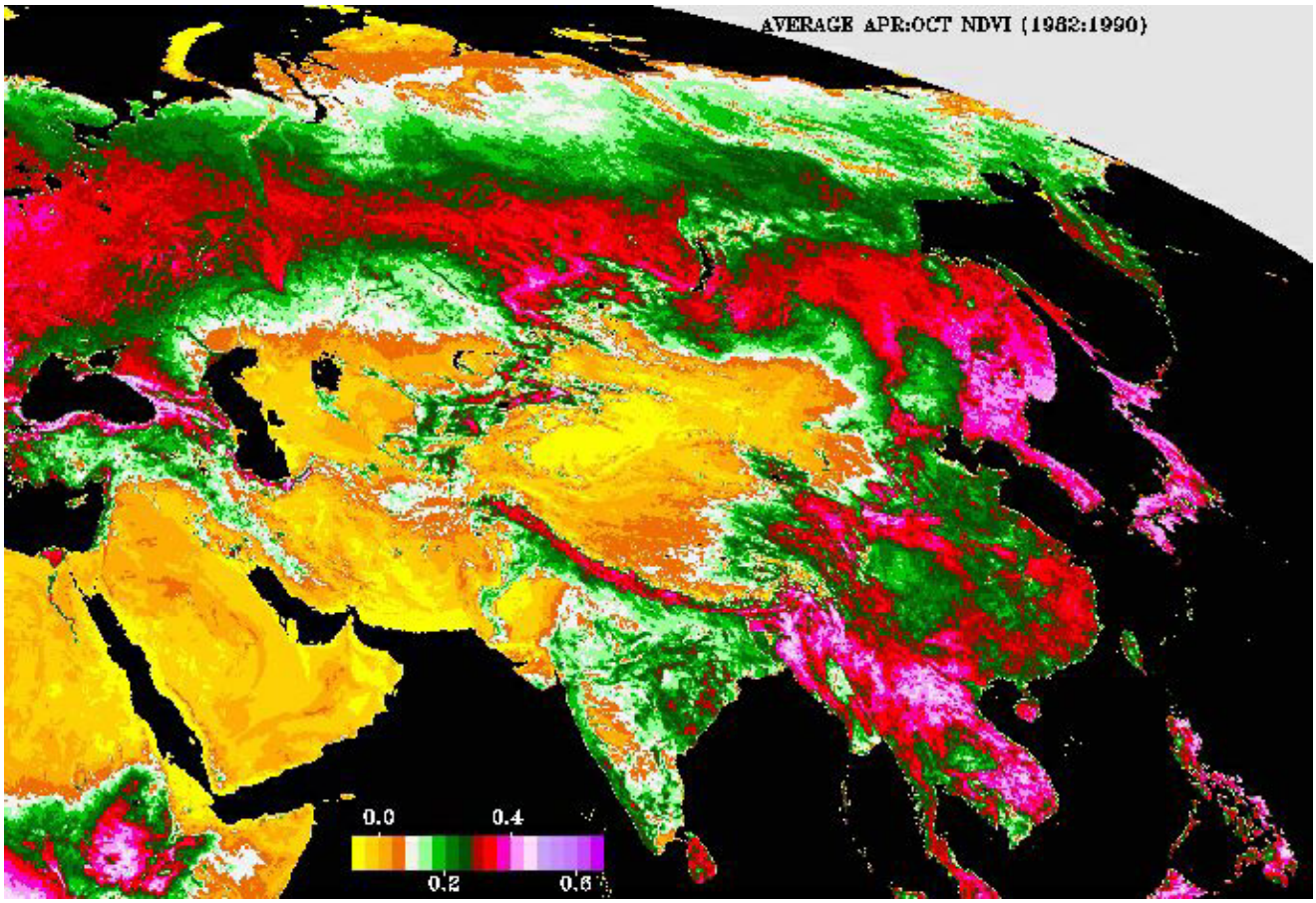

Figure 36. **Growing Season Average NDVI of Asia Derived from the Advanced Very High Resolution (AVHRR) Pathfinder Data Set.** Monthly NDVI was calculated as the average of three 10-day composites. The monthly values were further averaged over the 9-year period of record before Mount Pinotubo eruption (1982-1990) to obtain long-term average monthly NDVI values.